

WHAT IS CLAIMED IS:

1. A prosthesis for a below-knee amputated limb, comprising:
a foot, a keel, a pylon, and a socket adapter;
a socket formed by using a cast of a residual leg stump;
the socket adapter comprises a connecting face that is shaped to a desired configuration to achieve a desired alignment between the socket and the keel; and
a coating of copolymer draped on an assembled unit comprising the keel, the pylon, the socket adapter and the socket,
wherein substantially all of the pylon and the socket adapter are removed from an interior of the copolymer coating.
2. The prosthesis of claim 1, wherein the alignment between the socket and the keel is set at a desired relative angle between the socket and the keel by attaching the socket to the shaped socket adapter.
3. The prosthesis of claim 2, wherein the relative angle of alignment is set by cutting the socket adapter into two pieces and repositioning the two pieces relative to one another and reconnected the two pieces.
4. The prosthesis of claim 3, wherein the copolymer is substantially a homogeneous blend of between 7 and 10 percent polyethylene, the remainder being polypropylene.
5. The prosthesis of claim 1, wherein the keel comprises an access orifice providing access to an interior of the coating of copolymer so as to allow the removal of the pylon and the socket adapter from the interior of the copolymer coating.
6. The prosthesis of claim 5, wherein the pylon is covered with at least one layer of aluminum foil which separates the pylon from the coating of the copolymer.
7. The prosthesis of claim 6, wherein the aluminum foil is vacuum-formed against a surface of the pylon.

8. The prosthesis of claim 7, wherein a panty hose is provided between the aluminum foil and the pylon.

9. The prosthesis of claim 1, wherein the pylon and the socket adapter is made of foam.

10. The prosthesis of claim 1, wherein the foot, the keel, the pylon, and the socket adapter are prefabricated modular components.